V. S. Kaufman

A few in Surgery I

Spores - found only in certain rod-shaped bacteria or bacilli. Bacillus Tetani & Bacillus Anthracis also B. Oedematis Maligni

Comparison of Typhoid bacillus (Eberth) and B. Coli Typhoid 12-20 flagella - Colon Bacillus 3-6 flagella. Typhoid Bacillus forms acid. B. Coli forms acid and gas (Foul odour)

Toxins - Extracellular produced by Tetanus B. & Diphtheria B (Klebs Loeffler) in fluid in which Bacteria grow. Intracellular - produced by Tubercle Bacilli and accumulate in bodies of Bacteria

Gram's method of staining Film immersed in Stain of (1 parts sat. alcoholic sol of Gentian

2. Bacteria stained by Gram's-
Staphylococci, Streptococcus pyogenes, Pneumococ
micrococcus tetragenes - Bacilli of Tetanus,
anthrax, Tubercle, Leprosy, Diphtheria, Streptothr
of Actinomyces
Violet diluted with 9 parts of
1-20 carbolic water) 3-5 minute
Then treated few minutes with
watery solution of Iodine in Iodide
of Potassium (I I/KI II Ag 300) Then
washed in Alcohol.

Ziehl-Nielsen Method
Film stained by carbol-fuchsin
Then immersed in 20-25% sol of Sulphuric acid 5-10 min.
This removes stain from all
except Acid Fast bacteria
Tubercle Bacillus - Leprosy - &
Smegma

Koch's Postulates
I Organism present in body in every case of disease
II Possible to cultivate it apart from body.
III Inoculation of animal is followed by specific disease
IV Organism found in animal thus affected.

Note - B. Lepræ has never been cultivated

Yeasts or Blastomycetes

I - Blastomycetic Dermatitis

II Hyphomycetes - filamentous fungi

(a) Thrush - Oidium albicans

(b) Ringworm

{ I Microsporon Audouini
{ II Trichophyton

(c) Favus - Achorion Schönleinii

(d) Tinea (Pityriasis) Versicolor

Microsporon Furfur

III Protozoa - unicellular animals

causes of Malaria, Amoebic Dysentery with hepatic abscesses -

Spirochaeta Pallida cause of Syphilis & Trypanosomes cause of Sleeping sickness.

N.B. It is evident that immune sera have the power of aiding the action of leucocytes presumably in virtue of containing an antibody which unites with

bacteria and renders them vulnerable. Sir Almroth Wright has named these antibodies (opsonins) and holds that the amount which is present in the blood determines the degree of immunity to various infections.

In practise the serum of a patient is always compared to that of a healthy patient the ratio between the two being called (Opsonic Index). Thus if in the preparation containing the normal serum there were 240 organisms T.B. in 100 leucocytes and in the other only 120 the opsonic index would be $\frac{120}{240}$ or .5 showing the patient's serum contained much less of the opsonin to T.B. than did that of healthy person.

Widal's Test.

Agglutination reaction for diagnosis of Typhoid fever Also occurs in Malta Fever

and Bacillary Dysentery. - It consists of clumping of Typhoid Bacilli - produced when blood serum or solution of dried blood of Typhoid patient is added to Bouillon culture of T.B.

Scotts Dressing - Ung. Hyd. Co + over 10% of Camphor.

Moxa - burning spirituous sol. of saltpetre on skin

Issue - maintenance of a raw surface - constant presence of some irritant - Insertion of a bead.

Seton - Double thread knotted passed under skin - pulled from end to end daily.

Effleurage - plain up and down rubbing of limb with flat of hand.

Petrissage - Kneading between finger tips and palm of hand.

Tapotement - Series of blows perpendicular to surface

Red Blood cells - in health are 5000000 to cubic millimetre

Leucocytes - in health 4000-10000 to cubic millimetre

Juster's method - Estimation of amount of haemoglobin - Also useful in diag. of Syphilis

Jenner's Blood Stain - Eosinate of methylene Blue in methyl alcohol - Blood film allowed to dry - Flooded with stain - two minutes - Film rinsed, drained, dried, mounted, canada B

White Cells

I Polynuclear or Polymorphonuclear larger than R.B.C. 65-75% small granules

II Eosinophiles - larger than R.B.C 2-4% large granules.

III Mast cells ½% contain tissue cel

IV Symphocytes 20-25% smaller than R.B.C.

V Large Hyaline or large mononuclear cells - 2-4% much larger than R.B.C

Leucocytosis occurs in Pneumonia, Scarlet fever, Erysipelas, Diphtheria, Plague, Whooping Cough.

Eosinophilia - occurs in
- Infection with animal parasites
Trichinosis, Sometimes Hydatids.
Ankylostomiasis
- some skin diseases
- Asthma
- Gonorrhoea.

Hilton's method of opening deep abscesses in dangerous regions
Divide skin & superficial structures then thrust director into abscess cavity - Pair of forceps passed along groove and blades forcibly separated.

Sinus - narrow tract lined with granulations penetrating into the tissues - open at one end & closed at the other.

Fistula - abnormal communication (congenital or acquired) between two cavities or between cavity and external surface.

A cubic centimetre = (17) min.

Ludwig's Angina Cellulitis of submaxillary region.

Lenis Plaster Gelatin 5 parts Zinc dyids 5 parts Boric acid 1 part Glycerin 8 parts water 6 parts - Alcohol 5 o/o

Lotio Rubra Zinc Sulp. gr 1 Ft Lavandulae Co - Sp. Rosmarini ad min. XX Boracic gr X. Aquam ℥i

Lotio Nigra - Black wash. (Mercurial)

Skin Grafting

Reverdin - small portion of cutaneous tissue punched up & cut off - include cuticle & portion of cutis vera

Thiersch - large portions of cuticle

Wolfe - whole thickness of skin

Raynaud's

Spontaneous Symmetrical Gangr.

I Local syncope - (anaemia)

II Local asphyxia

III Necrosis

Condy's fluid

Pot. Permanganate gr VIII - 3 I

(1) Kraske's Treatment in Erysipelas Skin is scarified all round at distance of an inch or two - deep enough to draw blood - Antiseptic compresses then applied.

Opisthotonus Body arched backwards.

Emprosthotonus - Body doubled forwards.

Pleurosthotonus - Body bent laterally.

Accelli plan of Treatment of Tetanus. Hypodermic injections of carbolic acid 10-15 min of 2% sol.

Note Intracranial Injections at point midway between Ext. Aug. Process of frontal bone and central point of a line from Inion & Nasion.

B. Tetani - delicate straight

rod - Anaerobic - Spore forming at extreme end of rod - Produces Extracellular toxin - Possesses flagella Stains by Gram's.

Post mortem changes of Rabies. Hydrophobia - Lyssa.

Evidences of acute inflam of lower part of medulla including 9, 10, 11th nerves Disease may be diagnosed in lower animals by Negri bodies in Hypocampus major of cerebral cortex. - Minute cell like bodies - large or small central mass or cluster of minute corpuscles surrounded by homogenous hyaline zone around which is delicate membrane.

Pasteur's Preventive Treat for Hydrophobia -

Injections of attenuated virus in increasing doses and increasing strength.

B. Anthracis - one of largest pathogenic organisms - rod or thread - immobile - aerobic, forms spore -

Credé's Prevention Treatment for Gonorrhoea in new born infants. Washing out conjunctival sac with a weak sol. of $Ag\,NO_3$ or $Na\,Cl$.

Gonococcus - Diplococcus Gonorrhoea Each coccus bean shaped - Does not stain by Gram's Best way is to stain by Gram's then counter stain with Carbol Fuchsin

Bacillus Ducrey - Ulcus Molle Soft Chancre.

Syphilis is caused by Spirochaeta Pallida or Treponema Pallida - a Protozoan Parasite - delicate spiral filament discovered by Siegel & Schaudinn in 1905.

Hunterian chancre - Indurated or hard - Primary lesion of Syphilis.

Colle's law - Mother of Syphilitic child is immune to the disease

Profetas law. Child of a syphilitic father or mother is immune to Syphilis

Hutchinson's teeth - characteristic of Inherited Syphilis - (notched & stunted)

B. Tuberculosis - Slender rods, non motile, no flagella, no spore, Acid fast stains by Ziehl Neilsen method.

Tuberculin - solution of substances given off by T.B. when grown in glycerine broth. When injected causes in T.B. client a sharp rise of temp in few hours.

Cabmette's - see file

drop or two of Tuberculin dilutes, 1-100 or 1-200 into conjunctival sac In T.B. patients this is followed by mild conjunctivitis.

Koch's Old Tuberculin T.R.

There are three forms of Giant cells which occur pathologically

I Tuberculous type

II Myeloplaxes occurring in Myeloid sarcoma

III Parenchymatous giant cells in tumours - especially in Sarcomata & Carcinomata.

Biers treatment - Venous congestion. particularly in T.B. disease of joints.

B. Lepræ - causes. Elephantiasis Græcorum. resembles T.B. Acid fast stains by Ziehl-Neilsen method

B. Mallei - causes Glanders

rod. Slightly thicker than T.B. Stains both ordinary aniline dyes

Streptothrix Actinomyces or Ray Fungus - causing Actinomycosis.

Theories for Pathogenesis of Tumours - Parasitic
" Foetal Residues " Tissue Lesion

Coley's Fluid - sterilized culture of Streptococcus pyogenes and Micrococcus prodigiosis in bouillon - used in inoperable cases of Sarcoma - doses - ½ min to 7 to 8 min

Adontoma -
" Epithelial - Fibro cystic disease of Jaw.
" Follicular - Dentigerous cyst
" Fibrous
" Radicular
" Composite

Psammomata
Endothelioma - which occur in brain - composed of

spindle cells which have a tendency to organize into fibrous tissue - curious arrangement of whorls.

Fluid of Hydatid cyst -

Low Specific Gravity - 1007 - colorless slightly opalescent - limpid - may be slight trace of albumen - corpuscles small amount - also Scolices & hooklets.

Listers (Strong mixture)

5% Carbolic acid with 0.2% of corrosive Sublimate

Superficial Stitches or Sutures of coaptation -

(a) Interrupted
(b) Glover's stitch
(c) Blanket or Button hole stitch
(d) Halsted's intradermic or Subcuticular
(e) Quilled suture
(f) Metallic clips - Michel's

In ordinary aseptic operation wound the sutures are usually removed on 8th day.

16

P. M. work
Probably 1.13.
Anatomical Work
Butcher's work

Verruca necrogenica -
Papillomatous development usually on knuckles or wrists of those exposed to wounds in dead houses or slaughter houses.

Whitlow - Paronychia
Panaritium Felon.

Four forms -
Subcuticular - Local inflam. of Stratum
Subcutaneous - True cellulitis
Thecal - Tenosynovitis of flexor sheaths
Subperiostial involving terminal phalanx

Note the formation of Synovial membranes of flexor tendons of Hand. Thus whitlows of the thumb and little finger are more dangerous than those of intervening fingers because Synovial sheaths of flexor tendons of thumb & little finger extend into wrist.

Aliberts Keloid - overgrowth of scar tissue frequently occurs

in T.B. patients -

Thiosinamin is prepared by warming oil of mustard with an alcoholic solution of Ammonia -

Fibrolysin is a mixture of Thiosinamin with Sod. salicylate - used hypodermically in the treatment of excessive contraction usually following burns

Marjolin's Ulcer - A chronic sore & Scars.

Antiseptic plan of treating wounds originally introduced by Lord Lister.

Prevention of Bacterial development in wounds by the use of Chemical agents)

Carbolic acid - antidote Alcohol - 1-20 - 1-40 solutions mainly employed. General absorption causes darkening of Urine.

Corrosive Sublimate $HgCl_2$

1-2000 — 1-1000 — 1-500 — Last Solution + 5% Carbolic Lister's strong mixture. Instruments should not be placed in Sublimate solution.

Biniodide of Mercury

1-500 sol. in 75% meth. Spirits for purification of hands & skin of patient.

Boric or Boracic acid

mild antiseptic used frequently in Ophthalmic Surgery.

Iodoform

- Chief value is in Septic and T.B. wounds - Suspended in glycerine 10% injected into Tubercalous tissues, Joints or abscesses - Open wounds packed with gauze soaked in Iodoform emulsion.

Lysol

- antiseptic derivative of coal tar. 2% solution - Syringing out Vagina - Ears etc.

Pot Permanganate
Sanitas
N2 O2
} are

ordinary acute
used in treatment of Sebtic
ulcers, carbuncles, stinging
abscess cavities

Formalin
powerful antiseptic &
disinfectant (contents of
40% aqueous sol. of formic
aldehyde

Simple and effective
method of preparing
catgut. (Iodine method)
for Surgical work.

I Catgut wound loosely
on glass spool.

II Immersed in Iodine 1
Solution } Pot. Iod. 1 for
Aq. Dist 100 7-10 days

III Removed & kept dry in
sterile gauze - Before using

Placed in Rect. or Meth Arteries - for few minutes to dissolve out excess of Iodine.

Infusion - Injecting some bland fluid (Isotonic with blood serum) into the veins.

Vein chosen - Median Basilic or Internal Saphenous - 4 or 5 pints warm Saline Solution 3i to each pint sterilized Aq.

No air must be admitted.

Note Hypodermoclysis - Injections into Connective tissue of Buttock, Abdomen, Submammary region - A pint or more of Saline solution slowly.

Distinguish between Rectal & Gummy Rectal also Stay Rectal

Palmer Arches - Pressure on Ulnar trunk mainly affects superficial arch -

Pressure on Radial trunk affects Deep arch.-

Deep arch lies just over bases of metacarpal bodies - Superficial arch lies ½ inch further from wrist.

Aneurismal Varix - Direct communication between artery and vein

Varicose Aneurism - An aneurismal sac exists between artery and distended vein.

Ligatures for Aneurisms.

Antyllus - clearing out sac - securing vessel above & below, allowing to heal by granulation

Anel - artery tied just above sac on cardiac side with no intervening branch

Hunter - artery tied on cardiac side some distance from sac.

Brasdor. tying the main trunk beyond the sac

Wardhop - ligature is placed on one or more of the distal branches.

Moores method - treatment of an aneurism by the introduction of foreign bodies into the sac.

Macewen Acupuncture. Fine needles into sac Scratch and irritate wall - produce Inflammatory hyperplasia which organizes into fibro cicatricial tissue

Tracheal Tug - indicates an aneurism of the aorta

Thrombi -

White - forms slowly - fibrinous - adhere to vessel wall

mixed - more rapid

Red - blood coagulates en masse.

Epistaxis bleeding from the nose.

Haematemesis - vomiting of blood.

Haemoptysis - escape of blood from the air passages

Haematuria passing of blood in urine

Melaena - passage of dark tarry blood with stools

Venesection or Phlebotomy

Median Basilic usually opened - Amount of blood removed - Bumex Dec 3 x

Aslet 3 xvi - xx

Used in Pulmonary Congestion — Rt heart distended — Inflammation of Brain.

Elephantiasis Arabum Barbadoes Leg. caused by development in lymphatics of Filaria Sanguinis Hominis

Reaction of Degeneration -

Galvanic current produces a greater contraction of muscle and remains longer than the Faradic current.

Tic douloureux, Trigeminal neuralgia - Epileptiform tic.

Bells palsy - paralysis of facial nerve caused by Extracranial lesions

Nerve anastomosis has been utilized in facial paralysis - Spinal Accessory or Hypoglossal

Erbs Paralysis - of 5th cervical root sometimes 6th in part - Muscles affected - Deltoid, Biceps, Brachialis Anticus, Supinator Longus occasionally Supraspinatus & Infraspinatus. with Anaesthetic Region supplied with sensation by 5th root in severe cases.

"Winged Scapula"

Paralysis of Serratus magnus & Rhomboids - supplied by Ant. thoracic of 5th cervical nerves & Post. thoracic nerve.

Saturday night Paralysis

Musculo Spiral nerve!

affected by hanging arm over chair or table.

Total division of Musculo-Spiral nerve - Symptoms.

Anaesthesia over front & back of outer side of elbow & forearm - over the radial side of dorsal aspect of wrist & hand and over the back of the thumb, index, middle & half of ring fingers, of variable extent.

Paralysis - of Triceps lower forearm can only be extended by its own weight

of long & short Supinators hence hand is pronated only

Supinator remaining & Biceps
of Radial & Ulnar Extensors
of Wrist hence Wrist drop
which is also present in
certain lesions of central or
topic origin — Lead Palsy
of the Extensors of fingers
and Thumb - which either
hang limp or motionless or may
be bent up into the palm from
the unopposed action of the
flexor muscles. If however
the wrist and proximal phalanges
are supported and extended
the terminal phalanges can
be straightened by the action
of the Interossei & Lumbricales.

Destruction of Median
Nerve - Just above the wrist.
Symptoms - Anaesthesia
to light touch over the palmar
aspect of the radial side of the
hand, over the front of the

thumb, index, middle, and half of ring fingers and area varying portions of the dorsum of the same. Some Anaesthesia

Paralysis - of outer group of short muscles of thumb (Abductor, opponens + outer half of flexor brevis pollicis) So that Thenar eminence wastes and the movement of "opposition" is impaired, the thumb remaining extended by the side of the fingers (Duchenne's ape hand)

of outer two Lumbricales causing loss of flexion at the metacarpo-phalangeal joint

II Just at bend of Elbow or in arm

Paralysis of Pronator Radii Teres + Pronator Quadratus causing loss of Pronation

of Flexor carpi Radialis causing defective wrist flexion on the radial side & impaired radial abduction.

of Flexor longus Pollicis, Flexor Sublimis digitorum, outer half of Flexor Profundus Digitorum - causing loss of power of hand grasp especially on radial side and perhaps by extension of wrist of Palmaris Longus

Injury of Ulnar nerve.

I At Elbow

Analgesia of little finger and ulnar border of palm back and front.

Anaesthesia to light touch of ulnar side of front of wrist and palm of back of hand and of the little and half of the ring finger front & back

Paralysis
of Flexor Carpi Ulnaris
causing weakness in
flexion and ulnar adduction
of the wrist.

of inner half of Flexor
Profundus Digitorum.
causing weakness in hand
grasp especially in ring and
little fingers

of the two inner
Lumbricales and of all
the Interossei - hence loss
of abduction & adduction of
the fingers with flexion
of the last two phalanges in
each finger and super-
extension at the metacarpo
phalangeal joint (main-
en-griffe) or claw hand
These muscles atrophy and
show interosseous spaces
plainly -

of short muscles of little finger of inner 2 rods of short thumb muscles (adductor transversus, adductor obliquus & deep portion of flexor brevis) and of the palmaris brevis

II Just above the wrist. Anaesthesia involves palmar aspect of hand & back of terminal phalanges

Paralysis - short palmar muscles

Sciatic nerve stretched - Exposed where it emerges from under cover of Gluteus maximus - midway between Tuber Ischii & Great Trochanter.

Anterior Crural nerve - Injured - causes Anaesthesia over front of thigh and along inner side of leg and foot & ball

If great loss

Paralysis

of Quadriceps Extensor,
Pectineus - Sartorius - with
secondary flexion of Knee
joint from unopposed
action of hamstrings.

External Popliteal Injured
- Anaesthesia over
dorsum of foot

Paralysis of Extensor
and Peroneal groups of
muscles.

May be followed by
Talipes Equino-Varus

Internal Popliteal Injured
Anaesthesia of back
of calf and sole of foot

Paralysis of calf
muscles, flexors of toes
of toes and of short muscles
of toes - Talipes calcaneo valgus
likely to ensue

Tibial nerves Injured.

Paralysis
of extensors of foot and
Talipes equinus result
from division of ant. Tibial
Paralysis
of short & long flexors
of foot & interossei with
resulting Talipes calcaneo-
valgus followed lesions of
Posterior Tibial

Chilblain - Inflammatory
Hyperaemia determined by
exposure to cold usually
involving fingers, toes
and ears.

Compare - Lupoid ulcer
with Tuberculous ulcer

Lupoid — Spreads at one
margin, heals at other -
Edges raised and infiltrated
and show scattered Lupoid

Tubercles - Practically painless. Occur most commonly on face in children & young adults

Tuberculous - Result from breaking down of subcutaneous focus. May be connected with disease of bones, joints, lymphatic glands or connective tissues Irregular & ragged margin with undermined congested edges. Base formed of pulpy granulation tissue containing caseous masses of Tubercle

Tenoplasty - Incorporation of strong tendon into weaker muscle to strengthen it.

Nonsuppurative - Inflammation of Bursa Patellae

Weaver's Bottom - Inflam. of Bursa over Tuber. Ischii.
Thrower's Elbow - Inflam. of Bursa over Olecranon.
Torticollis or Wry Neck contraction of Sterno mastoid also Trapezius & deep fascia.
Scoliosis - Lateral curvature of Spine accompanied by rotation of Vertebrae.
Kyphosis - Dorsal convexity of back.
Lordosis - Anterior curvature of Spine in Lumbar region.
Spondylo-listhesis. Lumbar Vertebra (5th) slips forward and down from the top of Sacrum.
Sprengel's Shoulder - Congenital elevation of Scapula.

Dupuytrens Contraction
Contraction of Palmar fascia
Coxa Vara - Incurvature
of neck of Femur -
Genu Valgum - Knock Knee
Genu Varum - Bow Leg.
Talipes - Clubfoot.
Talipes Equinus -
usually due paralysis of
Extensor muscles (either
from infantile palsy or
injury of ant. tibial nerve)
and secondary contraction
of calf muscles.
Talipes Calcaneus
Extensor tendons contract
Toes drawn upwards.
Talipes Varus - termed
frequently Equino Varus
Commonest variety of
congenital club foot. May
follow infantile palsy of
Extensor & peroneal muscles

Phelps operation -
Dividing all structures on
inner aspect of foot.
and Secondary contraction
& shortening of Tibialis
Posticus & anticus & flexor
longus digitorum & tendo
Achillis.

Talipes Valgus
Outside of foot abducted
and everted owing to
contraction of peroneal
muscles. Sole is flattened
and inner border of foot
comes in contact with ground.
Flat Foot. Splay Foot Spurious Valgus
Impairment of Calcaneo
Scaphoid Lig. (Inferior)
Holden Bird Sling -
Soft webbing & support
arch of foot.
Pes Cavus - Nobles or Claw Foot
Increased concavity
of plantar arch.
Bunion - Bursa over
head of first metatarsal

bone inflamed from cold or injury.

Morton's Disease

Metatarsalgia Severe pain of neuralgic type about heads of metatarsal bones.

Crepitus - 5 Conditions

I Bony Crepitus - fracture of bone
II when Epiphysis is detached
III Effusion of blood into tissues
IV Effusion into tendon sheaths bursae or joints.
V Air in tissues - Surgical Emphysema

Union of Bones -

Lower Jaw 5 weeks -

{ I Four tailed bandage
II Hammonds wire splint
III Kingsley's apparatus.

Clavicle 4 weeks

I Three handkerchief plan

I Sayre's method
IV Injuries sand bag between shoulders.

Humerus.

Upper end. 6 weeks
Shaft. 5 weeks

Middeldorpf's Triangle

In fractures of shaft of Humerus the displacement depends largely on position of fracture. If (above Insertion of Deltoid) but below that of muscles inserted into & around bicipital groove. The upper fragment is drawn inwards and the lower upwards & outwards.
If (Below the Deltoid) the upper fragment is drawn outward and the lower upwards & inwards

N.B. A very common complication in this

fracture is Injury to Muscles & Blood Vessels which winds round the shaft close to its centre

Chauffeurs fracture of radius above level of ordinary Colles fracture.

Radius -

Note In fractures of the shaft of the Radius the displacement is somewhat characteristic

If above Insertion of Pronator Radii Teres. - Upper fragment flexed and fully supinated by action of biceps and Supinator brevis while the lower fragment is drawn towards ulna and fully pronated by the unopposed action of the Pronator radii teres and Pronator quadratus.

Treatment - Elbow flexed

and forearm fully supinated.

If Below Insertion of Pronator Radii Teres.

Upper fragment is drawn forward by action of Biceps and inwards by Pronator Radii Teres assuming a position midway between Supination & Pronation. The lower fragment is approximated to the Ulna partly by the direct action of the Pronator Quadratus partly by the Supinator Longus tilting the upper end inwards. The hand is fully pronated looking downwards.

Treatment.

The arm is placed midway between Pronation & Supination and the hand is fully adducted.

Colles's fracture

Fracture of lower end of Radius - common in Elderly women

2 weeks

Gotch, Carr, Pistol Gordon - splints.

Both bones of forearm } 5 - 6 weeks.

Fracture of Colles 6 wks.

Femur. 6 - 8 weeks.

Signs - Local Trauma
Crepitus
Loss of Power
Eversion
Shortening

(Extracapsular)

N.B. Position of Great Trochanter decided by Relations Line - Ant. Sup. Spine of Ilium to Tuber Ischii. Centre of this corresponds to Top of Great Trochanter.

Bryants Test Line.

Vertical line from Ant. Sup. Spine of Ilium - Distance from this line to top of Great Trochanter compared with other side.

Morris Bitrochanteric Test

Distance between outer surfaces of Trochanters & middle line of body.

Another change is thickening of Great Trochanter due to callus.

Allis's Sign.

Relaxation of Ilio-Tibial band between Great Trochanter & Crest of Ilium

Fracture of Femur

Treatment - 6-8 weeks.

Weight & pulley.
Macintyre splint
Hodgen's apparatus
Liston's long Splint.

Buck's method of Extension with Volkmann's sliding rest.

Patella -

Patient in bed 30 4 wks. Plaster many months.

I Simple Reduction apparatus

II Subcutaneous Operation

Baker - Silver wire

Open plan. Lister - Hamilton

Wagstaffe's fracture -

Internal malleolus.

Separated - result of direct injury

Potts Fracture

Internal lateral Ligament gives way or base of Internal malleolus torn off - Fibula bends and breaks at weak spot. Generally about 3 inches above tip of malleolus.

Dupuytren's fracture

Interosseous tibio fibular ligament yields or flake

of Tibia form of. more
serious than Potts.

Necrosis. Death of Bone
Caries - Osteoporosis
or rarefaction of bone
and adjacent ulceration of
soft parts.

Sclerosis - Slow formation
of new bone in Haversian
canals & cancellous spaces.

Tuberculous Dactylitis.
Tuberculous Arthritis of Phalanges.

Note - arrangement
of Synovial membranes of foot

I Post. calcaneo-Astragaloid
II Ant. calcaneo-astragaloid
and astragalo-scaphoid
III Calcaneo-cuboid
IV Cubo-metatarsal
V Large common sac between
scaphoid & cuneiform, between the
three cuneiform bones and between
cuneiform & 2nd & 3rd metatarsal.

VI Between internal cuneiform and first metatarsal.

Parrot's Nodes - new formation of bone under periosteum on skull - In Inherited Syphilis.

Parrot's Disease - Syphilitic pseudo-paralysis - Syphilitic Epiphysitis

(Englische Krankheit -)

Rickets - Disease of nutrition - manifesting itself mainly in tissues of osseous system - Exaggeration of zone of multiplication of cartilage cells - Ossifying process deficient.

Parrish's food. (Syr. Ferri Phos. Co.)

Infantile Scurvy - Barlow's Disease

Lorenz's bloodless method

of reducing congenital dislocation of the hip.

I Head of Bone drawn down to level of acetabulum

II Head replaced in acetabulum (Limb fully flexed - forcibly abducted - extended & everted)

III Limb in Plaster Paris from hip to knee - position of abduction & slight eversion - leg flexed.

10 - 12 weeks.

Signs of dislocation of Shoulder.

Shoulder flattened.

Head of Humerus in abnormal position - glenoid cavity empty.

Elbow displaced from side - impossible to touch against side when fingers are placed on opposite shoulder (Dugas Test) not always in Subcoracoid type -

Vertical measurement around axilla increased (Callaway's

Lowering of ant. & Post. apillary fold (Bryant's Test)

A Blister touches acromion process and outer condyle of Elbow (Hamilton's) Can also occur in fractures of anatomical neck of Humerus.

Note. Kocher's method of manipulating in reduction of dislocation of Shoulder (Subcoracoid)

I Forearm flexed and pressed to side

II Arm rotated outwards.

III Arm drawn forwards & upwards.

IV Finally arm rotated inwards & carry hand toward opposite shoulder - Elbow drawn across the chest and lowered.

Dislocation backwards of 1st Phalanx of Thumb

Important Factors -

Tension of long flexor tendon which bridges round the neck of metacarpal bone and arrangement of glenoid ligament which passes between the attachments of two heads of short flexor. This is loosely attached to metacarpal bone but firmly to phalanx so that it accompanies the phalanx in its dislocation and will thus be situated in front head of metacarpal bone thus preventing reduction.

Baker's cysts - Hernial protrusions of synovial membrane of joint through apertures in fibrous capsule.

Charcot's Disease is neuropathic Arthritis.

The Spinal cord in an adult terminates at lower

Border of Spinal Cord Affections of the Cord associated with Spinal Lesions - Concussion, Haemorrhage, Meningitis Myelitis - Neuralgia.

Phenomena of Paraplegia at different levels

I Upper end of Sacrum.

Involves cauda Equina causes paralysis of Sacral plexus.

(a) Catalysis of all muscles below lesion except those supplied by ant. Crural nerve. Obturator & Superior gluteal.

(b) Anaesthesia - Penis, Scrotum, Perineum, lower half of gluteal region and whole of legs except front and outer part of thigh which are supplied by cutaneous br of anterior Crural & region supplied by long saphenous nerve

(c) Bladder and rectum shut off from their spinal centres - hence temporary retention of urine, followed by distension with overflow and incontinence of faeces

II Dorsi Lumbar region.

Lumbar enlargement -

(a) Paralysis of all muscles below lesion

(b) Anaesthesia - legs, gluteal & perineal regions

(c) If visceral centres destroyed Paralysis of Bladder & Rectum. dribbling of urine & incontinence of faeces.

III Mid-dorsal region

Same phenomena as Dorsi-Lumbar plus more extensive region of anaesthesia limited above by hyperaesthetic zone which feels like tight girdle

Paralysis of flat abdominal

muscles - (meteorism)
Retention of urine followed by distension & overflow.

IV Cervico Dorsal
Anaesthesia over nearly the whole trunk - the hyperaesthesia may involve arms. Intercostal and spinal muscles paralysed Respiration carried on by hampered diaphragm. Priapism marked feature

V Lower Cervical
Region of arms also involved in paralysis & anaesthesia

N.B. If lesion at or above 4th cervical vertebra - (Paralysis of Diaphragm)

Spina Bifida - Imperfect development of some portion of posterior aspect of spine.

Myelocele - non closure of primitive medullary groove

Syringo-myelocele.
Distension of central canal of cord-nerves around Sac.

Meningo-myelocele.
Development of fluid within membranes nerves through sac.

Meningocele.
Protrusion of membranes containing cerebro spinal fluid

Phelps Boyd Sayles Plaster jacket used in treatment of Pott's disease.

A Retro-pharyngeal Abscess
should always be dealt with from the neck.
Incision at post. border of Sterno mastoid muscle and transverse processes of cervical vertebrae defined.

Dorsal. Psoas or lumbar abscess. Best position to tap a Psoas abscess is just

internal to Ant. Sup. Spine of Ilium - Portion of Intestines must be considered.

Abscess may point above Poupart's Ligament - when tapping it remember that femoral vessels may be displaced and should not be sought

Danger Area in Scalp

Loose cellular tissue between occipito-frontalis aponeurosis and Pericranium

Meningocele - Protrusion of brain membranes containing cerebro-Spinal fluid

Encephalocele - Similar type of tumour containing brain substance and pulsating almost synchronously with heart

Hydrocephalocele or Meningo-encephalocele.

Tumor containing both brain substance and fluid.

Craniotabes a condition met with during first year of life, usually as result of inherited Syphilis - Localized absorption of osseous tissue of cranium - produces cracking on pressure occurs most frequently in parietal bone.

According to situation of fracture in base of skull Haemorrhage manifests itself in various directions.

Anterior Fossa - Nose - blood may be

swallowed - subsequently vomited.

Orbit - Ecchymosis as subcutaneous distension of lower lid - resembles bruise

Middle Fossa

Nose and mouth most commonly ears.

Posterior Fossa.

Usually subcutaneous showing around mastoid process.

Cerebro Spinal Fluid

Indications of communication with subdural space.

May be drained from ears - nose - Cranial Vault.

Fluid - watery or limpid - S. G. 1005 slightly alkaline - contains NaCl - traces of albumen - and a substance which reduces cupric salts.

Cranio-Cerebral Topography

Fissure of Rolando - Upper extremity $\frac{2}{3}$ inch behind centre of line from Inion to Nasion. Direction of Sulcus downward and forwards at angle 67° to mesial line.

Reids Base Line. From lower margin of orbit backwards through centre of Ext. Auditory Meatus to just below Ext. Occipital Protuberance

Note two ⊥ s perpendicular to Reids Base Line

I Anterior to Ext. Auditory meatus

II Posterior to mastoid process.

Fissure of Rolando extends from upper limit of II to where I crosses

Fissure of Sylvius

Fissure of Sylvius (Rolando)
From 1¼ inches behind
Ext angular Process of Frontal
Bone to 1¼ inches above
Zygoma to point ⅗ inch
above Parietal eminence -

Lumbar Puncture
in cerebral lesions and
diseases - Valuable from
diagnostic & Therapeutic
Standpoint. Position
of Puncture - Into 4th
Lumbar interspace
note Spinous process of
4th Lumbar Vertebra
or a line joining iliac crests

acute Meningitis - Fluid
Turbid, contains much
albumen - cells mostly
polynuclear leucocytes -

tubercular Meningitis -
Fluid almost clear - Slight

excess of albumen & cells, mostly lymphocytes) T.B. may be found.

Cerebral abscess fluid normal.

In fracture of base of skull or spinal column blood usually appears in cerebro-spinal fluid within few hours of injury.

Wounds of brain - Haemorrhage into Cortex characterized by irritative or paralytic phenomena - unilateral usually with area involved. Degree of unconsciousness depends on amt. of haemorrhagic effusion

Upper & middle Frontal Conv. - Cerebral irritation - Subsequent weak mindedness

Third Frontal convolution - motor aphasia - inability

to produce or articulate words

Motor Area -

Localized convulsions or Paralysis. Motor area is situated in front of Fissure of Rolando

Occipital Lobe -

Temporary hemiopia - Permanent when Angular Gyrus destroyed.

Upper Temporo Sphenoidal Lobe

Deafness due to Injury of Cortical auditory Centre

Corona Radiata

Paralysis of region represented by overlying cortex.

If corpus striatum (Caudatum & Lentiformis) or Internal capsule involved - rapid coma with hemiplegia perhaps hemianaesthesia

Into Lateral Ventricle

Rise of Temp. - Very rapid weak pulse - increased respiratory rate -

Cerebellum.

Giddiness - Vertigo - Ataxia.

Crus Cerebri

Hemiplegia on opposite side of body. Some hemianaesthesia & total paralysis of 3rd nerve (motor oculi) on side of injury.

Pons Varolii

Paralysis of opposite side of body to the injury with paralysis of 5th 6th 7th & 9th nerves on same side constituting so called - **Crossed paralysis** - May be marked contraction of pupils

Medulla -

Usually fatal. Disturbed functions of circulatory & respiratory centres — with

perhaps - Cheyne-Stokes respiration & saccharine diabetes.

Potts puff swelling - If there is an open wound over the site of an abscess of brain (Subcranial) Oedematous swelling of scalp.

Commonest cause of abscesses and organisms (Chronic Otorrhoea)

Note position for opening abscess of Brain

I Abscess of Temporo Sphenoidal Lobe - 1¼ inches above Auds base line and directly above Ext Aud. meatus or better 3/4 inch above Post root of Zygoma on line through post border of Ext. Auditory meatus.

Abscess of Cerebellum.

1½ inches behind centre of Ext. Aud. meatus & 1/4 inch below Reid's base line

Note Opening to Lateral Sinus 1 inch behind Ext. Aud. meatus and 1/4 inch above R.B. line

Also Middle Meningeal Artery (Anterior Branch) 1½ inches behind Ext. Aug. Process & 1½ inches above Zygoma.

(Posterior Branch) 1¾ inches behind Ext. aug. process & 1/4 above Zygoma.

Tapping Lateral Ventricle 1½ inches above centre of External Auditory Meatus.

Hare Lip is often associated with Spina Bifida & Talipes. An operation should be done between three weeks and six months of age.

Riggs disease - Pyorrhoea Alveolaris
& pulis -

I Simple - usually fibromatous growing from periosteum of lower jaw - Sometimes fibroma originate inside bone

II Malignant myeloid sarcoma characterized by giant cells growing from periosteum & medullary tumor.

Leontiasis ossea - formation of diffuse hyperostoses from either cranial or facial bones - nodular at first now thick soft spongy bone -

Rhinoplasty -

I Indian method - Flap of skin taken from Forehead

II Italian method - Flap of skin taken from Arm

III French method - Flap of skin taken from cheek

Whitehead's operation (1)

Partial removal of Tongue - Lingual artery secured - Salivary glands removed.

Kocher's operation

Extrabuccal method of removing whole tongue.

Incision - Lobe of ear along ant. border of Sterno mastoid & great cornua of Hyoid bone then curved to Symphysis of lower jaw. Glands removed. Lingual and Facial arteries tied near carotid.

Symr plan - Incision in middle line dividing lower lip extending downward to Hyoid bone. Mandible sawn through in the middle and halves separated widely

White head's Varnish - Friar's Balsam in which the rectified spirits is replaced by solution of Iodoform in Ether.

Ranula - Obstruction to duct of Rivini of Sublingual Gland - Unilateral -

Stenson's Duct - extends from socia parotidis (along a line from lobe of ear to point midway between alar nasi & angle of mouth) across masseter muscle two inches - turns abruptly inwards to pierce Buccinator and enters mouth opposite 2nd upper molar tooth.

Cleft Palate — Operation best undertaken between second and third years. (6 wks)

Acute Suppurative Sensibility or Fever —

Dealt with by Incision nearer the inner end of a line drawn from base of Uvula to last molar tooth

Globus Hystericus -

Hysterical structure of Oesophagus - Seen in neurotic young women - difficulty in swallowing and sensation as of ball rising in throat.

Methods of Inflating tympanic cavity.

I Valsalva's method - Closing lips - holding nose & expiring forcibly

II Politzer - Politzer bag and tap introduced into nostril - Other nostril held Patient told to swallow - At same time bag is forcibly compressed.

III Eustachian catheter

Instrument is passed with beak down, along inferior meatus of nose until Post. Pharyngeal wall is reached. Attended end of Instrument slightly raised with a curve ½ — ¾ inch till beak is in contact with Post. end of hard palate. Catheter rotated outward ¼ circle pushed slightly forwards & Eustachian is

Mastoiditis - Curved Incision behind Ear - Gouge applied on level with roof of Ext. auditory meatus & down ½ inch & in to centre

Direction of Gouge slightly downwards forwards & inwards - Useful guide is probe along Ext. Aud. meatus

Other names for Exophthalmic

Goitre - Grave's disease
Basedow's
Myxoedema -
Cachexia Strumipriva -
supervenes when
Thyroid body removed,
totally

Operations on Air Passages.

I Subhyoid Pharyngotomy.
Transverse incision through
Thyro. hyoid space or -

II Transhyoid Pharyngotomy
Vertical incision from symphysis
menti to Thyroid cartilage
dividing thyroid bone in
middle line

III Thyrotomy - Vertical
section of Thyroid cartilage
Incision. Hyoid bone &
Cricoid cartilage.

IV Laryngotomy - Vertical
over situation of crico thyroid
membrane, which is then

divided transversely along upper border of cricoid cart

Tracheotomy -

(a) High Incision down from cricoid cartilage 1½ inch Isthmus upper tracheal rings divided from above downwards.

(b) Low - Below isthmus of thyroid body which lies over 3rd & 4th tracheal rings - Incision extends almost to episternal notch.

Treatment of Empyema

I Aspiration - 6th or 7th space mid axillary line - Generally exploratory or for pleural effusion

II Drainage - Best site -

children - 9th space external to scapular line

or 5th or 6th interspace just behind midaxillary line -

Estlander's operation -

Excision of portions of ribs

comprising the outer wall of cavity.

Schede's - Rib removed also intervening tissue - Deeper layer of Pleura exposed.

Fowler's - Pulmonary decortication.

Effusion into Pericardium.

I Serous - aspiration 5th interspace 1½ inch to left of sternum to avoid injury to Int. mammary Artery

II Purulent - Do not aspirate Incise & remove ½ 5th & 6th costal cartilage. Drainage tube inserted.

Treatment of apparently drowned Dr Bowles-

Movement No I

Pt. flat on stomach - Press on back 30 or 4 seconds - Suddenly remove pressure

Movement No II

Roll Pt toward you on right side

movement takes about 2 seconds
Repeat No I & No II in
succession for 15 minutes then
Movement No III —
when pt is on rt. side raise
left arm above head in line
with body.
Always turn patient on
Right Side, never on left &
under no circumstances on back
Paget's Disease of Nipple —
Dermatitis Maligna
Carcinomatous development —
in skin.
Abdominal Surgery —
Trendelenburg position —
Head is placed considerably
lower than rest of body
McBurney's muscle Splitting
method in removing appendix
or in colotomy. Incisions made
according to direction of muscle
fibre. Not Incision oblique.

2 or 3 inches long crossing
McBurney's Point parallel
& outer end of Poupart's Lig.
Ext. oblique retracted.
Incision 2 inches in Internal
oblique which runs same
direction as Transversalis.
Lennanders trap door Incision
Opening the sheath of Rectus
in front, displacing muscle
in or out, then making
incision in posterior sheath
and peritoneum so as not
to correspond too closely to
anterior incision.
Intestinal Sutures
I Lembert Bringing
the surfaces of peritoneum
together without encroaching
on mucous membrane. Only
the serous coats brought
together
II Czerny Lembert. Consists

of two rows. First has for its object the closure of wound in mucous membrake - second consists in ordinary Lembert stitches

III Halstead's mattress
Practically a double Lembert

IV Wölfler's method
Bowel stitched from inside
Two rows of stitches - One through serous & muscular coats - other through mucous coat.

V Cushing's tangled suture
Suture is introduced at one end of incision and tied according to ordinary Lembert method, then carried as a continuous Lembert suture except that the needle is introduced parallel to margins of wound at a distance of about ⅛ inch from

it instead of at right angles to it

Fowlers Position - after opening the abdomen in Peritonitis - Sitting posture with a view to permitting the fluid effusion to gravitate to the pelvis where absorption is not so free as at region of Diaphragm - Continuous infusion of salt solution into Rectum or subcutaneous tissues should also be employed to dilute toxines and eliminate them Outer sides of thighs are convenient for infusion into subcutaneous tissue

In the treatment of ascites Paracentesis may be necessary Have flannel bandage & make continuous pressure Bladder emptied. Spot of absolute dullness selected - Small

incision in median line below umbilicus & trocar & cannula inserted

In cases due Hepatic cirrhosis - Talma's operation of Epiplopexy

Object is to relieve the obstruction of the Portal system by opening up a fresh communication between it and systemic veins. Method - fixing great omentum to abdominal wall

Operations on Stomach

I Gastrotomy - opening the stomach - Incision in middle line above umbilicus

II Gastrostomy - formation of permanent artificial opening into stomach

Two chief methods

Frank's - Rosebo Carless modification

Witzel's -

III Gastrectomy
IV Pylorectomy
V Pyloroplasty Incising pylorus and reclosing Incision in such a way as to increase the calibre of the tube - Longitudinal incision changed to transverse.
VI Gastro Enterostomy or Gastro-Jejunostomy - Artificial communication between stomach and intestine. Important that upper part of Jejunum be selected
Anterior operation
Posterior operation
Appendicostomy - Artificial opening through appendix for the purpose of irrigating bowel. Used in Colitis.
Enteroptosis - Glenard's disease
General displacement downward of Abdominal Viscera -

Operations on Intestine

I Enterotomy - wound in longitudinal axis of gut along its anti-mesenteric border

II Enterostomy - formation of artificial opening into bowel.

III Colostomy or Colotomy

Left Lumbar colotomy -

Amussat's operation

Incision 4 or 5 inches long midway between last rib & crest of ilium running from outer border of Erector Spinae outwards. The centre of incision on a line running from a point ½ inch behind centre of line running from ant. to post iliac spine vertically upwards.

Iliac Colostomy - Littre's operation more in favour at present time

Incision two or three inches in length at right angles to a line from umbilicus to Ant. Sup. Spine of Ilium - Centre of incision corresponding to junction of outer and middle thirds.

III Entero plasty - a longitudinal incision through stenosed gut along anti-mesenteric border, converted into transverse cleft.

V - Excision of portion of Bowel. Enterectomy -

VI Entero anastomosis

I End to end - Simple suturing

II. { Robsons bobbin
Murphy's button.

Lateral Anastomosis
Lateral Implantation

Dietl's crises - Painful attacks associated with floating kidney - probably caused by twisting of ureter

In appendicitis. If
spite of rest and medical
treatment the symptoms
both general and local
are not commencing Diabetes
at the end of 48 hours
Operation should be undertaken

Gall stones - consist
mainly of crystals of cholesterin
held together by mucus and
colored by the bile pigment.
- Color is yellow. If lain long
in gall bladder - brown.

Primarily due to Inflammatory
condition of wall of gall bladder
or biliary passages. cholesterin
being formed by lining epithelium

Cholecystotomy - opening
of gall-bladder. Incision
parallel & costal margin on R.
side 1½ inch from it. Extending
upwards as far as middle line

Cholecystenterostomy -

Artificial communication between gall bladder & bowel.

Enterocele - Hernia containing some portion of bowel.

Epiplocele - Hernial sac in which omentum is found

Entero-epiplocele - when omentum and bowel are found together in hernial sac -

Bubonocele - (Incomplete Inguinal hernia) does not pass beyond external abdominal ring

Bassini's operation - Radical Cure for Hernia. - Incision 2½ inch long - centre little above Ext abdominal ring.

also - Bard's
Mc Ewen's
Nakayama's

Ventral Hernia - Note - subserous fatty protrusion which proliferates called

"fatty hernia of liver ache"

Abnormal condition of hernia

Irreducibility - generally due to adhesions

Inflammation localized peritonitis

Obstructed - Answers images of face presented.

Strangulation - when contents are constricted in such a way that circulation is obstructed

Richter's hernia

Strangulation of portion of circumference of Intestine.

Intussusception - protrusion or invagination of one part of intestine into another

Invaginated part - Intussusceptum

Invaginating part - Intussuscipiens

Three layers - Enveloping
Entering
Returning

Avoid three things

Intestinal obstruction -
Purgatives - Opium - Delay
in sending for the Surgeon.
Excision of Rectum - Two
operations
Low operation - Laugenbeck
High operation - Kraske - (2)
Whitehead's operation - (2)
Total removal of pile-
bearing area.
Kidneys may be
exposed by three chief
routes -
I Lumbar - Incision
outer border of Erector Spinae
1½ inch below last rib, cut
downwards and outwards in
direction of fibres of Ext. Obliq.
muscle toward anterior Sup.
Iliac Spine
II Abdominal - Incision
along Linea Semilunaris
III Lateral - Incision

almost vertical - 1/3 of dist
sio to Iliac crest. Operation
is retroperitoneal.

Nephrorrhaphy & Nephropexy.
Method of fixing the kidney.

Perineal Lithotomy Staff
with median groove in prostat
into urethra - Patient in lithotomy
position. Incision middle line
from point 2½ inches in front of
anus to point 1 inch in front
of anus. Knife enters membranous
urethra - cuts prostate & enters bladder

Dangers - Hemorrhage - Superficial
arteries of Perineum - Deep bro. of pudic
especially that to bulb - Prostatic plexus

II Wound of Rectum

III Pelvic cellulitis

Urinary deposits.

I Urate or lithic acid

Cayenne pepper granules, uneven
Kidney as gravel - urate acid.
High spec. gravity. -

II Urates or Lithates Pot. Sod. Amm. Amorphous granules (brick dust sediment) - Urine is acid, high Spec Gravity -

III Oxalate of Lime Urine pale, low Spec. Gravity - slightly acid and abundant.

IV Phosphates - Triple - in alkaline or decomposing urines.

Amorphous Phosphates of lime -

Haematuria - admixture of blood with the urine -

(a) Renal - acute inflammation, calculus, tumours, Congestions Injuries -

(b) Vesical - Injury, calculus tumours, ulceration, (Bilharzia Haematobia)

(c) Prostatic - Congestion, calculus, ulceration or malignant disease, or passage of catheter or bougie.

(d) Urethral - acute gonorrhoea laceration or instrumentation.

12) Constitutional ones
Purpura, Scurvy, Diabetes, Hydrophilia

Stone in the Bladder

Varieties

I Uric acid calculus - oval flattened - dense, smooth or slightly nodular - nut brown color - On section laminated -

II Urate of Ammonium very similar, lighter color, lamination less distinct.

III Oxalate of Lime.
Mulberry calculus, rough irregular body. Hard, dense, laminated. Dark red - brown color.

IV Phosphatic calculus
very uncommon - any stone or foreign body will become coated with phosphatic deposit in alkaline decomposition of Urine

V Cystine - rare - yellowish green - waxy appearance.

VI Xanthine - rare - reddish color.

Structure of calculus

Nucleus - blood clot or inspissated mucus, renal calculus or foreign substance.

Body - superposed layers of uric acid or oxalate of lime & more (alternating calculus)

Crust variable amount - soft friable phosphatic material

Lithotrity - Crushing & calculi in the bladder. & Debris removed by Bigelow's evacuator Litholapaxy.

Supra Pubic Lithotomy.

Bladder washed out - 8 or 10 oz left in - Trendelenburg Position. Incision - median line - from top of symphisis upwards 2 or 3 inches - Only contraindicated in two conditions. severe septic cystitis & contraction of the Bladder

Perineal Lithotomy

Indications for - (Thirst)

Serious cystitis & great irritability of bladder where draining & washing out are facilitated

Contracted & Hypertrophied condition of Bladder.

When calculus impacted at neck of bladder

Epispadias - a deformity in which urethra is partially or wholly exposed along the upper surface of penis.

Hypospadias defective development of the lower wall of urethra.

Note terms - Impassable and Impermeable as applied to Urethra - Former Stricture through which Catheter cannot be passed - Latter Stricture through which urine cannot find its way

In Passing the Catheter

Chief points at which difficulty may be experienced

(a) Orifice small & contracted

(b) Lacuna magna which is to be avoided by keeping Catheter against floor of Urethra. Lacuna magna is situated on upper surface of Fossa Navicularis about half an inch from orifice.

(c) Opening in Triangular Ligament. Best entered by keeping the point of catheter against upper wall of urethral canal.

Dangers of Catheterism

I Shock - N.B. may be obviated by first introducing 1/2 3 of 5% Sol. of cocaine into urethra.

II Haemorrhage - By laceration or abrasion of mucous membrane

III False Passages.

occurrence is indicated by sudden onward movement of catheter combined with pain and haemorrhage.

IV Inflammatory sequelae

I Urinary, Urethral or Catheter fever. Essentially septic in origin.

Cutting operations for Passable Stricture.

I Excision

II Internal urethrotomy (urethrotome) Only when anterior 2/3 of urethra involved and never when septic contamination of urine present

III External urethrotomy or Syme's operation

If stricture in posterior third of urethra - Chiefly employed where perineal fistula present. Special

shouldered staff (Syme's) with distal end grooved in middle line.

Wheelhouses operation in treatment of Impassable stricture

Wheelhouse's straight staff with median groove and blunt hook at end.

Cock's operation or Perineal section. Sometimes employed where retention of urine is present and no guide can be passed into bladder. Median perineal incision. Scalpel plunged toward apex of Prostate. Keeping strictly in middle line. If stricture not too far from incision it may be divided. Catheter passed. Perineal wound allowed to heal by granulation.

Extravasation of Urine -
a condition due to solution of continuity of urethral walls allowing urine to find its way into perineal & scrotal tissues - usually results from over distension of membranous urethra behind neglected stricture. Urine finding its way through anterior layer of Triangular ligament, thence between it and deep layer of perineal fascia (fascia of Colles) infiltrating over scrotum - abdomen &c.

Phimosis - Prepuce long - orifice small - that it cannot be retracted behind corona.

Circumcision - for removal of long prepuce - Dorsal aspect of prepuce

put on stretch. Director introduced between it and glans. Prepuse slit up. Lateral halves separated. Adhesions broken down. Retained smegma removed. Glans corona defined. Redundant prepucial tissue skin & mucous membrane cut away. Catgut sutures & prevent any raw surface being exposed. Never continuous suture.

Paraphimosis - phimosed prepuce completely retracted - often impossible for patient to replace.

Testicles are developed from posterior wall of abdominal cavity - so that they lie at first behind the peritoneum close to the kidneys - Passage into Scrotum about end of 8th month

of intra-uterine life.
Gubernaculum is
active agent in bringing
about descent of Testis. It
has three main attachments
a) to abdominal wall b) to pubis
c) to bottom of scrotum
Formation of Processus
Vaginalis - Gubernacula
fibres drag down peritoneal
diverticulum.
Comparison of Syphilitic
disease of Testicle with
Tubercular disease
Syphilis - affects Body -
which is evenly enlarged
and stony hard - frequently
accompanied by hydrocele.
Normal testicular sensation
early disappears.
Tuberculosis affects
Epididymis - not hard
tendency to abscesses -

Epididymis nodular to feel, cord oddly implicated - Hydrocele rare, Testicular sensation retained.

In tapping a Hydrocele - Skin purified - Tumor firmly grasped in palm of left hand - Spot - antero-superior margin selected for insertion of Trochar & cannula to avoid wound of Testicle - wound closed with wool & collodion.

Varicocele Varicose condition of pampiniform plexus - usually on left side for Reasons - 1 Left Testicle hangs lower than right. 2 Left Spermatic vein empties into left renal at rt angles - no valve present at orifice 3 Presence of sigmoid flexure causing pressure.

Posterior displacement

of Uterus dealt with by operations —

Alexander - Shortening of Round ligament.

Hysterorrhexy fixation of Uterus to ant. abdominal wall.

Cysts directly connected with Ovary

I True Ovarian cyst - is simple, multiple, or proliferating.

II Paroöphoritic cyst with papillomatous development.

III Corpus Luteum cyst

IV Ovarian Dermoid or Teratoma

V Malignant Ovarian Cyst usually Carcinoma

VI Ovarian Hydrocele

Cysts of Broad ligament

I Parovarian Cyst -

N.B. Epo-ophoron, Parovarium

or Organ of Rosenmüller placed in mesosalpinx between ovary & tube, consists of epithelial lined closed tubes (Our tube (Gärtner's duct) runs parallel & Fallopian tube - A number of tubes (Kobelt's tubes) empty into Gartner's at rt angles. Gartner's duct is portion of (Wolffian body) which has persisted and is represented in the male by canal of Epididymis.

II Cysts of Kobelt's Tubes.
III Cyst of Gärtner's duct
IV Fallopian tube cysts
V Lymphangiomatous developements.

Disarticulation of Shoulder joint
Spence's Operation - Incision downwards & outwards through Deltoid

April 2/x

Appearance of Gall Stones in London Museums.

Incision in operation on Structure of urethra - withdrawn off ½ inch —